



S. LLEWELLYN & ASSOCIATES LIMITED
CONSULTING ENGINEERS

December 18, 2019

File: 17080

City of Hamilton
71 Main Street West
Hamilton, ON, L8P 4Y5

Attention: Aaron Inrig
Development Engineering

**RE: 299-307 John Street South and 97 St. Joseph's Drive (ZAC-18-009)
Hamilton, ON**

Thank you for your comments in connection with the above noted project in regards to the review of the submitted engineering plans. We have had the opportunity to review your comments and offer the following response:

Comments:

- *Section 3.2 of the Functional Servicing Report is based on the Ontario Building Code and does not reflect the requirements of the City of Hamilton Development Guidelines Chapter E.1.4 – Design Flows. Please revise the discussion to reflect the City of Hamilton Development Guidelines requirements to demonstrate that the municipal system has sufficient capacity to support the proposed population density on the site.*

Section 3.2 of the Functional Servicing Report has been revised to reflect calculations based on the City of Hamilton's Development Guidelines section E.1.4. The population density was assumed based on 2.5 persons per hectare.

- *It appears that the 2-year allowable stormwater discharge from the site has been calculated based on the entire area of the site. However, a portion of the site has drainage area allocated to the combined sewer on Charlton Avenue East. Therefore, the allowable discharge rate should be based only on the area which is currently allocated to drain to the storm relief sewer on John Street South.*

The pre-development condition has been separated into two catchment areas. In addition, the stormwater management has been remodelled to reflect this change. Please refer to the revised Functional Servicing Report.

Preliminary Grading & Servicing Plan:

- *Area drains 1 and 2 are proposed to connect to the sanitary drain. Please note that all area drains are to connect to the storm outlet, not the sanitary outlet.*

The note on the Notes & Details Plan has been revised to note the above.

- *All private inspection MHs must be placed as close to the new property line as possible while still remaining entirely on private property.*

The proposed manholes have been placed as close to the new property line as possible.

- *Water valves must also be placed as close to the new property line as possible while still remaining entirely within the municipal right-of-way.*

The proposed water valves have been placed as close to the new property line remaining entirely within the ROW.

- *These comments can be addressed at the Site Plan Application stage.*

The above comments have been addressed as part of the submission.

Water Servicing**Water Demands:**

- *The peak domestic water usage for the site, based on the approximate fixture units for the development, has been calculated as 53.13 L/s. This calculation is acceptable.*

Noted.

Required Fire Flow:

- *The required fire flow (RFF) has been calculated as 16,000 L/min (267 L/s).*

Section 4.3 of the Functional Servicing Report has been revised to follow the Target Available Fire Flows provided by the City of Hamilton.

- *This calculation was based on fire resistive construction materials (i.e. C=0.6), exposure charges of 35%, limited combustible contents (15% reduction) and a 50% credit for a fully supervised sprinkler system.*

Section 4.3 of the Functional Servicing Report has been revised to follow the Target Available Fire Flows provided by the City of Hamilton.

- *Please note that the building floor areas, exposure distances, building materials and sprinkler system design should be checked to be compliant with the RFF calculations at the building permit stage.*

Section 4.3 of the Functional Servicing Report has been revised to follow the Target Available Fire Flows provided by the City of Hamilton.

- *The following updated City hydrant testing data is available for the closest municipal hydrants and should be reflected in the report:*

The hydrant flow data has been updated based on the latest available information.

General:

- *Section 1.1 of the Functional Servicing Report states that the development includes 923 residential units, while the architectural drawings show 723 residential units. Water demand calculations have been based on 723 residential units, which is assumed to be the correct value.*

Section 1.1 of the Functional Servicing Report has been revised to state 723 residential units.

- *The provided information is satisfactory to support the Zone Change and UHOPA applications. We have no concerns related to the Zone Change and UHOPA applications. We note that the above comments will need to be addressed as part of the detailed design and site plan approval for the development application.*

Noted.

Water Servicing

- *Please provide mechanical connection details of area drains to the underground storage vault.*

This detail is to be provided by the Mechanical Engineer during detailed design.

- *Please provide details of the underground storage vault on the drawing (cross section showing bottom & top invert, depth of cover, etc.).*

Details of the proposed stormwater storage vault will be provided during detailed design.

- *Please provide groundwater table information demonstrated through the geotechnical/hydrogeological investigation to support that the proposed underground parking will not have any impact on the groundwater at the subject site.*

The Geotechnical Investigated prepared by Landtek Limited Consulting Engineers has been provided with this submission.

- *The proposed OGS unit should be designed based on ETV particle size distribution.*

The proposed OGS unit sizing has been revised based on the ETV particle size.

Yours truly,

S. LLEWELLYN & ASSOCIATES LIMITED



M. Colosimo, Dipl.T.